AMENDMENT TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-11. (cancelled)

12. (currently amended) A ~~complex~~ biocompatible matrix comprising:

at least one biocompatible polymer of natural origin, cross linked with a cross linking agent of a [[bi-]] bifunctional or polyfunctional molecule selected from the group consisting of epoxides, epihalohydrines and divinylsulfone, and ~~wherein said biocompatible polymer has~~

grafted chains comprising polymers grafted on the biocompatible polymer of natural origin, each grafted chain having a molecular weight less than 50,000 Da, ~~and comprising polymers of natural origin of small size, and~~ wherein the quantity of grafting is from 10% to 40%, defined as being the ratio between the number of moles of grafted ~~molecules~~ polymer and the number of moles of ~~units of~~ the crosslinked polymer.

13. (currently amended) The biocompatible matrix according to claim 12, wherein the biocompatible polymer of natural origin is selected from the group consisting of

hyaluronic acid, chondroitine sulfate, keratane, keratane sulfate, heparin, heparin sulfate, cellulose ~~and its derivatives~~, carboxymethyl cellulose, xanthanes, alginates, proteins, and nucleic acid.

14. (withdrawn - currently amended) The biocompatible matrix according to claim 12, wherein the biocompatible polymer of natural origin is

a polymer not naturally present in the human body ~~and~~ selected from the group consisting of a ~~cellulosic derivative~~ cellulose, a xanthane, and an alginate, which is cross linked with at least one polymer naturally present in the human body selected from the group consisting of hyaluronic acid, chondroitine sulfate, keratane, keratane sulfate, heparin, heparane sulfate, xanthanes, alginates, proteins and nucleic acids.

15. (currently amended) The biocompatible matrix according to claim 12, wherein the amount of cross linkage, defined as the ratio between the number of moles of the cross linking agent ensuring the linking of the polymer chains and the number of moles of ~~units of the~~ polymer structure, is ~~comprised~~ between 0.5% and 50% in the case of injectable products, and is between 25% and 50% in the case of solid products.

16. (currently amended) The biocompatible matrix according to claim 12, ~~containing~~ further comprising at least one selected from the group consisting of antioxidant agents[[,]] and vitamins ~~and other dispersed pharmacologically active agents~~ dispersed in the matrix.

17. (currently amended) The biocompatible matrix according to claim 12, ~~containing~~ further comprising vitamins ~~or other dispersed pharmacologically active agents~~ dispersed in the matrix.

18. (withdrawn - currently amended) A method to separate, replace, fill or supplement a biological fluid or tissues comprising a step of applying an effective amount of a biocompatible matrix according to claim 12.

19. (withdrawn - currently amended) A process for the preparation of a partly biodegradable biocompatible matrix ~~constituted by~~ comprising at least one biocompatible polymer of natural origin, ~~characterized in that it comprises~~ the process comprising:

- grafting small chains of molecular weight lower than 50,000 Da with an amount of grafting of 10% to 40%, defined as the ratio between the number of moles of grafted small chains and the number of moles of the crosslinked polymer, the small chains

being selected from polymers of natural origin ~~of small size,~~ and/or unpolymerized chains having antioxidant properties or properties of inhibiting reactions of degradation of said matrix, ~~or~~ and

- cross linking ~~the principal chains of~~ the biocompatible polymer to create a homogeneous matrix, with ~~the help of~~ a cross linking agent ~~which is~~ of a [[bi-]] bifunctional or polyfunctional molecule selected from the group consisting of ~~epoxydes~~ epoxides, epihalohydrines or divinylsulfone.

20. (withdrawn – currently amended) The biocompatible matrix according to claim 13, wherein the biocompatible polymer of natural origin is a polymer not naturally present in the human body selected from the group consisting of ~~cellulosic derivative~~ a cellulose, a xanthane and an alginate, which is cross linked with at least one polymer naturally present in the human body selected from the group consisting of hyaluronic acid, chondroitine sulfate, keratane, keratane sulfate, heparin, heparane sulfate, xanthanes, alginates, proteins, and nucleic acids.

21. (currently amended) The biocompatible matrix according to claim 13, wherein the amount of cross linkage, defined as the ratio between the number of moles of the cross linking agent ensuring the linking of the polymer chains and the

number of moles of ~~units of the~~ polymer structure, is ~~comprised~~ between 0.5% and 50% in the case of injectable products, and is between 25% and 50% in the case of solid products.

22. (withdrawn - currently amended) The biocompatible matrix according to claim 14, wherein the amount of cross linkage, defined as the ratio between the number of moles of the cross linking of the polymer chains and the number of moles of ~~units of the~~ polymer structure, is ~~comprised~~ between 0.5% and 50% in the case of injectable products, and is between 25% and 50% in the case of solid products.

23. (currently amended) The biocompatible matrix according to claim 13, ~~containing~~ further comprising at least one selected from the group consisting of antioxidant agents[[,]] and vitamins ~~and other dispersed pharmacologically active agents~~ dispersed in the matrix.

24. (withdrawn - currently amended) The biocompatible matrix according to claim 14, ~~containing~~ further comprising at least one selected from the group consisting of antioxidant agents[[,]] and vitamins ~~and other dispersed pharmacologically active agents~~ dispersed in the matrix.

25. (currently amended) The biocompatible matrix according to claim 15, ~~containing~~ further comprising at least one

selected from the group consisting of antioxidant agents[[,]] and vitamins ~~and other dispersed pharmacologically active agents~~ dispersed in the matrix.

26. (currently amended) The biocompatible matrix according to claim 13, ~~containing~~ further comprising vitamins ~~or other dispersed pharmacologically active agents~~ dispersed in the matrix.

27. (withdrawn - currently amended) The biocompatible matrix according to claim 14, ~~containing~~ further comprising vitamins ~~or other dispersed pharmacologically active agents~~ dispersed in the matrix.

28. (currently amended) The biocompatible matrix according to claim 15, ~~containing~~ further comprising vitamins ~~or other dispersed pharmacologically active agents~~ dispersed in the matrix.

29. (currently amended) The biocompatible matrix according to claim 16, ~~containing~~ further comprising vitamins ~~or other dispersed pharmacologically active agents~~ dispersed in the matrix.

30. (withdrawn - currently amended) A method to separate, replace, fill or supplement a biological fluid or tissues comprising a step of applying an effective amount of a biocompatible matrix according to claim 13.

31. (withdrawn - currently amended) A method to separate, replace, fill or supplement a biological fluid or tissues comprising a step of applying an effective amount of a biocompatible matrix according to claim 14.

32. (currently amended) [[A]] The biocompatible matrix according to claim 12, wherein the force of ejection of the biocompatible matrix comprising grafted chains is less than an identical biocompatible matrix but without grafted chains ~~grafted matrix having grafted chains is decreased in respect to a non-grafted matrix~~.

33. (currently amended) A ~~complex~~ biocompatible matrix comprising:

at least one biocompatible polymer of natural origin, cross linked with a cross linking agent of a [[bi-]] bifunctional or polyfunctional molecule selected from the group consisting of epoxides, epihalohydrines and divinylsulfone, and ~~wherein said biocompatible polymer has~~

grafted chains, each grafted chain having a molecular weight less than 50,000 Da, and comprising ~~non-polymeric chains~~ compounds having antioxidant properties or properties for inhibiting reactions of degradation of said biocompatible matrix, said compounds selected from the group consisting of vitamins, enzymes and cyclic molecules,

wherein the quantity of grafting is from 10% to 40%, defined as being the ratio between the number of moles of grafted ~~molecules~~ chains and the number of moles of ~~units of~~ the crosslinked polymer, and

wherein the force of ejection of the biocompatible matrix comprising grafted chains is less than an identical biocompatible matrix but without grafted chains ~~grafted matrix having grafted chains is decreased in respect to a non-grafted matrix~~.